

Veterinary History Histoire vétérinaire

On the middle road: Queen's University's foray into veterinary and comparative medicine

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Introduction

Formal veterinary education began in Europe in 1762 with the founding of a veterinary school in Lyons by Claude Bourgelat, followed by the founding of other schools in Europe, mainly by French graduates (1). The first English speaking school was established in London in 1791 by Charles Vial de Sainbel, a graduate of Lyons (2). Of particular significance to the early development of veterinary education in Canada was the first Scottish veterinary school, opened in Edinburgh by William Dick in 1823 (3), since both Andrew Smith and Duncan McEachran were Edinburgh graduates. Smith founded the Ontario Veterinary College in Toronto in 1862 (4), and McEachran, a classmate of Smith initially served on the faculty in Toronto and subsequently went on to found the Montreal Veterinary College in 1866 (5), after disagreements with Smith over the low academic standards of the college in Toronto.

Between 1895 and 1899, a veterinary school was associated with Queen's University in Kingston, Ontario. With both diploma and degree programs, the school was situated not only geographically, but also intellectually, between Toronto and Montreal, since it strove to provide a "middle road" between the low academic standards of the college in Toronto and the relatively high standards of the Montreal college. The college in Toronto, with extremely lax admission requirements, focused on the clinical art of veterinary medicine and offered a course of study of only 2 winter sessions, leading to a diploma. On the other hand, the Montreal college required high school matriculation for admission, and the degree program that extended

over 3 years had a greater science content; it was closely allied to the medical school at McGill University. The low academic standards at the college in Toronto were extensively criticized (6), but it was successful in attracting students. The Montreal college, which emphasized comparative medicine in addition to clinical training, was much less successful in this regard. Only brief references to the history of the Queen's school (7–9) can be found in the literature. By using archival sources, the reasons for the founding of the school in 1895 and the economic pressures, interpersonal conflicts, and shortage of veterinary leadership, which led to its closure 5 years later, are explored in this paper.

Founding of the school

The opening of a veterinary educational facility at Queen's reflected the dual allegiances of veterinary medicine to agriculture and human medicine, both well established in the Kingston area. Agriculture in eastern Ontario was changing in the latter part of the 19th century, with an increased emphasis on livestock rather than grain production (10), stimulated by an increasing local demand for dairy products and a growing export trade, initially in live cattle and, by the turn of the century, increasingly in dressed meat (11). These changes and the periodic fear of animal plagues, such as pleuropneumonia, increased the need for qualified veterinary surgeons in the region.

In addition to the increasing demand for veterinary input into animal production, a veterinary school in eastern Ontario was also a result of the desire of the leaders of Queen's University to increase practical science in the curriculum. In Kingston, the veterinary school was to be a part of the School of Mining and Agriculture, which was founded in 1893 (12) and became integrated into the University in 1897. During the 19th century, academic medicine placed increasing emphasis on the developing discipline of physiology (13), the experimental aspects of which served to deepen the connection between human and animal medicine. Some scholars have argued that research physiology was demarcated and defined by animal experimentation (14). The physiology movement at Queen's was assisted in 1891 by the endowment of a chair in Animal Biology and Botany held by A.P. Knight (15), who appreciated the significance of animals in medical science and was convinced of the possibilities for experimental and comparative medicine. Knight wrote in 1895 (16):

"The great advances made in the knowledge of the etiology of the contagious diseases of man, and their intimate

Dr. Dukes submitted a cognate essay with this title to the Faculty of Graduate Studies of Queen's University, Kingston, Ontario as the thesis component of his Master of Arts degree in history in 1997, and gave oral presentations on the subject at the Canadian Society for the History of Medicine in 1998, and at the C.A.V. Barker Symposium on Canadian Veterinary History at the University of Guelph in 2001. He intended to publish his findings, but he died before this could be accomplished. The material has now been edited for publication from a copy of the essay kindly provided by his thesis supervisor, Dr. Jacalyn Duffin, Hannah Professor of the History of Medicine at Queen's University, by Dr. J. Brian Derbyshire, Department of Pathobiology, Ontario Veterinary College, University of Guelph, Guelph, Ontario N1G 2W1, to whom correspondence should be addressed.



Figure 1. Portrait of George W. Bell. From the Museum of Health Care at Kingston. Used with permission.

relation to the contagious diseases in animals, open a large and fruitful field for investigation, the importance of which can scarcely be overestimated.”

Knight encouraged medical educators at Queen's to develop the laboratory side of medicine, and his vision was shared by W.T. Connell of the medical faculty; they both embraced the goal “to lay a broad foundation by imparting as thorough a knowledge as possible of comparative anatomy, physiology and pathology” (17).

According to Gattinger (9), the principal of Queen's University, George M. Grant, who had transformed a collection of colleges into a university, and was supportive of practical studies (15), had been interested in a veterinary school as early as 1879. He discussed this possibility with Andrew Smith in Toronto in 1892 (7); he may also have consulted with Duncan McEachran in Montreal (8). Grant adopted aspects of both of the other Canadian anglophone colleges by planning a 2 year course leading to a diploma as Veterinary Surgeon with an optional 3rd year leading to the degree of Doctor of Veterinary Medicine and Surgery within the School of Mining and Agriculture. In December 1894, George W. Bell (Figure 1), an 1880 graduate of the Ontario Veterinary College, applied for the position of head of the proposed school (18). Bell had practised in the United States since graduating (9) and was the proprietor of the Dr. Bell Wonder Medicine Company. He relocated in Kingston in 1893, operating a clinic in Brock



Figure 2. Kingston Collegiate, site of the School of Dairying and the School of Veterinary Medicine. The building has now reverted to an elementary school (photographed in 2006).

Street, where he continued to produce his patent medicines for use in farm livestock and pet animals. Various archival materials relating to the Dr. Bell Wonder Medicine Company are held in the Museum of Health Care at Kingston. Bell's appointment as head of the veterinary school was confirmed in April, 1895 (19). On August 15, 1895 a cash advance of \$600.00 for the veterinary school was recorded in the cash book of the School of Mining and Agriculture (20), and in October that year, the treasurer was “authorized to have the sign *Veterinary College* placed upon the Old Collegiate Building,” which was the home of the new school (21). Five men, E.P. Brannigan, P.I. Haffner, W.S. Rowson, M.Gallivan, and W.D. Garret were the first students to be enrolled in the program (20).

Growth and development of the school

Classes began in the fall of 1895 and ceased in the fall of 1899, with the last student graduating in the early spring of 1900. The veterinarians on the faculty comprised local practitioners (George W. Bell, William Nichols, and John Bell) and military veterinarians stationed in Kingston with the Canadian Permanent Militia (Lt.-Col. James Massie and Lt.-Col. W.J. Morgan). The nonveterinary faculty included A.P. Knight for animal biology (histology and physiology), W.T. Connell for pathology and bacteriology, J. Herald for materia medica, and W.L. Goodwin for chemistry. Payments were made to the faculty from the fees paid by the students (22,23). Classes were held in the former Kingston Collegiate Institute (Figure 2), while dissections were done in a special room constructed on the grounds of George Bell's residence in Kingston (7), where clinical cases were also examined. Attendance was required for 2 winter sessions for the diploma course; the degree program required an additional 3rd year of study with emphasis on further clinical experience.

The initial enrollment of 5 students in the 1895–1896 academic year was a promising start. Only 3 students had enrolled in the first classes at Toronto's Ontario Veterinary College when it opened 30 years earlier (24), but subsequent enrollments in

We, the Principal and Professors,



Constituting the Senate of the University of Queen's College,
by these Letters witness that

WILLIAM SHEPHERD ROWSON

having passed the Examinations for the Degree of

Doctor Veterinary Medicine and Surgery,

do grant unto him such Degree, with all privileges, immunities,
and honours which, here or elsewhere, are conceded to Doctors of
Veterinary Medicine and Surgery.

In Witness Whereof, we hereto sign our names, and affix
the Common Seal of the University.

For the Senate:



George M. Grant A.M., B.D., Principal
Chas. P. Knight M.A., M.D., Prof. Phys.
Geo. J. Chalmers B.A., Registrar

Given at Kingston, Canada,
this twenty-fifth day of April,
one thousand eight hundred
and ninety-eight.

Figure 3. Doctor of Veterinary Medicine and Surgery Degree granted by Queen's University to William Rowson in 1898. Courtesy National Archives of Canada.

Kingston failed to meet expectations. In 1896, Bell had forecast 10 or 15 students in 2nd year, with an equal number in 1st year (25), considerably in excess of the actual enrollment, which in the following year comprised a total of 12 students, 3 in the 1st year, 8 in the 2nd, and 1 in the 3rd (7). The low enrollments had important financial implications for the school, since the student fees were a major source of income and were used to fund the modest faculty stipends (26). Government funding was spread thinly — 80% of the funding for the School of Mining

and Agriculture was earmarked for the section of mining; the remaining 20%, available for agriculture, was divided between the dairy school, the navigational school, and the veterinary school (27).

Development of the school was also hampered by conflicts between George Bell and the Board of the School of Mining and Agriculture and, particularly, between Bell and the secretary of the Board, A.P. Knight. As early as 1896, Bell was involved in friction with the Ontario Veterinary College, arising from a

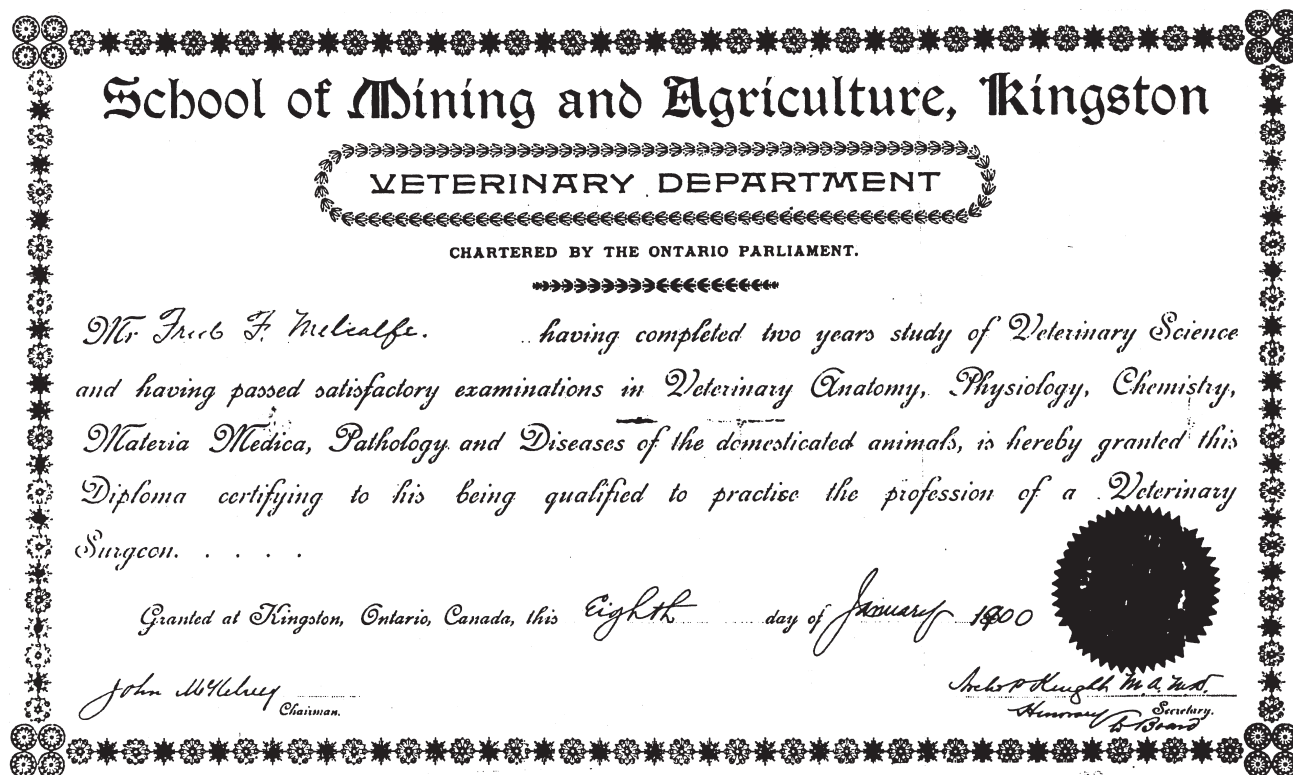


Figure 4. Veterinary Surgeon Diploma granted by the School of Mining and Agriculture to Fred Metcalfe in 1900. Courtesy National Archives of Canada.

letter that Bell had written to a student at the College, presumably in an attempt at recruitment from that institution (28). The Board resolved to avoid friction between the 2 schools in the future by ensuring parity in fees and requiring Bell to seek prior approval for any future correspondence. Bell was also accused of “intentionally stating what was not in accordance with fact” that the veterinary school and Queen’s University enjoyed an affiliation, which would not occur until 1897. At the next meeting of the Board, unspecified complaints were heard from a number of students “in regards to various matters about the college” (29). In the summer of the following year, Bell accused Knight of “interference between himself and the veterinary students” and further complained that delay in obtaining affiliation with the University had “mitigated against success of the Veterinary Department” (30).

The conflict between Bell and Knight may have arisen from their different views on veterinary education — similar to the differences between Smith in Toronto and McEachran in Montreal — reflecting broader tensions between laboratory science and the clinical art of medicine. For example, Bell’s patent medicine business was an expression of an entrepreneurial spirit, which contrasted with the work of the more conservative and academic medical science faculty. In August 1897, Bell submitted a proposition to the Board through his lawyer, offering to resign in exchange for \$200 in settlement of all claims against the Board, provided that 2 specific conditions were met: first, that the Board certify his 2 years of satisfactory teaching in the Veterinary Department, and second, that it appoint Edward

Crundall, V.S. to succeed him. The Board made a counter-offer of only \$100, but it invited Crundall to Kingston for an interview (31). Crundall was an 1885 graduate of the Montreal Veterinary College and in practice in Geneva, New York. At a further meeting of the Board on August 28, 1897, Bell was offered \$125 to “resign in full satisfaction of all claims including the skeletons at the veterinary building and other apparatus connected with the school, also all interest in the college tuition fees and all the claims of any kind whatsoever” (32).

At the same meeting, Crundall was appointed principal of the Veterinary School with a salary of \$400, provided that he produce satisfactory testimonials and diplomas. Bell accepted the terms of the Board in September, but negotiations with Crundall were terminated because he failed to produce the required documentation (33). Three days later, A.P. Knight was appointed acting dean of the Veterinary School (34). Bell continued to practise veterinary medicine in Kingston, and, when he was appointed milk inspector for the city, his son took over the management of the Dr. Bell Wonder Medicine Company. He died on October 12, 1927, at the age of 68 (35).

In the summer of 1898, the Board explored the appointment of another veterinarian as head of the School. Candidates included George Moir, from Northumberland in the United Kingdom, and A.H. King, from St. Thomas, Ontario. King was offered \$400 for the 1898–1899 session, but he declined the appointment (36). Without competent veterinary leadership, no one pressed for the development of the school and its needs, such as the establishment of an infirmary and pharmacy to

replace the facilities provided earlier by Bell, financial resources toward teaching aids, and an independent calendar that would advertise the school more vigorously. A request by Knight for a grant of \$170 towards the infirmary was denied by the Board. The student body was depleted early in 1898, when Knight discovered that a student had been illegally practising veterinary medicine from Friday to Monday each week. The student was ordered to discontinue at once, but “as a consequence, on advice of G.W. Bell, V.S., he went to a veterinary college in Chicago, and shortly thereafter another of our students left for the same place” (37). Apparently Bell continued to meddle in the affairs of the school.

Closure of the school

It is clear that by 1899, acting dean A.P. Knight had lost interest in veterinary education at Queen's. He wrote in the Annual Report (38) that his “chief interest in the School from the very beginning was the hope that a number of its students could ultimately be interested to devote time and attention to research in comparative medicine, but I frankly confess that I was disappointed. Dr. Connell, my colleague, agrees with me in the conclusion that none of the veterinary students have thus far shown the requisite ability for understanding research work in veterinary medicine.”

It should be noted that Knight and Connell had little more success in encouraging the medical faculty at Queen's to develop the laboratory side of their profession, and the faculty was criticized in 1910 for deficiencies in the scientific curriculum (39). Knight anticipated no surprise when he recommended closing the veterinary school (38). Nevertheless, in September 1889, James Massie, one of the military veterinarians associated with clinical teaching, presented his views on continuation of the school, but his protest was to no avail. Soon after, Massie was deployed to South Africa. The Board decided to close the school, and the secretary was requested to arrange for the transfer of the students to sister institutions (40).

Several reasons contributed to the failure of the school. Mitchell (8) and Gattinger (4) both suggested that it offered no special advantages over the existing veterinary colleges in Toronto and Montreal. Notwithstanding its adoption of a “middle road” between the scientific approach of the Montreal College and the successfully competitive approach of the Ontario Veterinary College, the Queen's school was doomed from the outset by underfunding, internal strife, lack of leadership, low enrolments, and external competition. Similarly, the Montreal Veterinary College, despite its distinct advantage over the Ontario Veterinary College in terms of the quality of its education and its seminal role in the development of the disciplines of veterinary and comparative pathology in North America (41), outlived the Queen's school by only 3 years.

A letter from the Queen's University deputy registrar, Alice King, to a correspondent at Minneapolis City Hall (42), and the records of the School of Mining and Agriculture already cited, reveal a total of 21 students in attendance at the Queen's school during its brief history. Of these, 3 students (W.A. McGill, W. Rowson, and J.M. Smith) graduated with the D.V.M.S. degree (Figure 3), as well as the V.S. diploma,

and 10 (J.V. Donnelly, H.A. Eades, M. Gallivan, W.D. Garrett, C.A. Hamilton, S.E. Hershey, A.J. McTavish, F.F. Metcalfe, W. Northmore, and J.M. Wade) received only the V.S. diploma (Figure 4). The remainder attended classes for only brief periods or left the school before completing the course. Metcalfe did not receive his diploma until 9 months after the School had closed. Rowson was recruited to teach anatomy at the School after graduation (37). The most distinguished graduate of the Queen's School in terms of his future career was Michael Gallivan, who worked with Edward Watson at Lethbridge on the eradication of dourine in horses between 1904 and 1920 (43).

Conclusions

Founded in 1895 in response to the needs of agriculture in eastern Ontario, and the interests of the medical faculty in possible benefits from involvement in experimental and comparative studies, the Queen's veterinary school adopted a middle road between the programs in Toronto and Montreal. The school's early closure in 1899 resulted from economic pressures, interpersonal conflicts, a lack of qualified veterinary leadership, and the disappointment of influential medical personalities in its early results. The rise and fall of this tiny institution exemplify the tensions between the art and science of veterinary medicine, which have yet to be fully resolved.

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